



MATERIAL SAFETY DATA SHEET
CHEMTRONICS[®] CW2200
CIRCUITWORKS[®] CONDUCTIVE PEN

1. IDENTIFICATION OF SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

COMMERCIAL PRODUCT NAME: CIRCUITWORKS [®] CONDUCTIVE PEN	CODE NO. CW2200STP CW2200MTP CW2200BLK
MANUFACTURER/SUPPLIER:	CHEMTRONICS, INC. 8125 Cobb Center Drive Kennesaw, Georgia 30152 USA
Phone Number:	1-770-424-4888
Fax Number:	1-770-423-0748
EMERGENCY:	1-703-527-3887

2. COMPOSITION/INFORMATION ON INGREDIENTS

HAZARDOUS INGREDIENTS	CAS No.	CLASSIFICATION	R PHRASES	CONCENTRATION
Silver	7440-22-4	-	-	35.0-65.0
Propylene Glycol Methyl Ether Acetate	108-65-6	Xi	R10, R36	2.0-20.0
Ethylene Glycol Monobutyl Ether Acetate	112-07-2	Xn	R20/21	2.0-20.0
Butyl Acetate	123-86-4	f	R10	5.0-35.0

3. HAZARDS IDENTIFICATION

Main Hazards	Flammable.
Health Effects - Eyes	Liquid may cause slight transient irritation.
Health Effects - Skin	Repeated or prolonged contact may produce defatting of the skin leading to irritation and dermatitis.
Health Effects - Ingestion	Swallowing may have the following effects: dizziness, light headedness, drowsiness, nausea.
Health Effects - Inhalation	Exposure to vapour at high concentrations may have the following effects: drowsiness, unconsciousness.

4. FIRST-AID MEASURES

First Aid - Eyes	Immediately flood the eye with plenty of water for at least 15 minutes, holding the eye open. Obtain medical attention if soreness or redness persists.
First Aid - Skin	Wash skin with soap and water. Apply a reconditioning skin cream.
First Aid - Ingestion	Give two or more glasses of water. Do not induce vomiting. Obtain medical attention.
First Aid - Inhalation	Remove from exposure. Seek medical attention if you feel unwell.

MATERIAL SAFETY DATA SHEET
CHEMTRONICS[®] CW2200 CIRCUITWORKS[®] CONDUCTIVE PEN

5. FIRE-FIGHTING MEASURES

Extinguishing Media	Use foam, dry chemical or carbon dioxide.
Unsuitable Extinguishing Media:	Do not use waterjet.
Special Hazards of Product:	This product may give rise to hazardous fumes in a fire.

Protective Equipment for Fire-Fighting:	Wear self contained breathing apparatus.
6. ACCIDENTAL RELEASE MEASURES	
Personal Precautions:	Ventilate the area. Wear appropriate protective clothing.
Environmental Precautions:	Try to prevent the material from entering drains or water courses.
Spillages:	Contain and absorb using earth, sand or other inert material.
7. HANDLING AND STORAGE	
Handling:	Use in well ventilated area.
Storage:	Storage area should be: out of direct sunlight, away from sparks and flames. Storage temperature should be kept below 50°C.
8. EXPOSURE CONTROLS /PERSONAL PROTECTION	
Engineering Control Measures	Exposure to this material may be controlled in a number of ways. The measures appropriate for a particular worksite depend on how the material is used and on the potential for exposure. Use of the basic principles of Industrial Hygiene will enable this material to be used safely.
Respiratory Protection	General ventilation should be sufficient.
Hand Protection:	Use a good quality barrier cream.
Eye Protection:	Chemical goggles if there is a risk of eye contact.
Body Protection:	Normal work wear.
9. PHYSICAL AND CHEMICAL PROPERTIES	
Physical State:	Paste
Colour:	Silver/gray
Odour:	mild hydrocarbon
Boiling Range/Point (°C):	126-192
Explosion Limits (%): Lower/Upper	1.5/10.0
Solubility in water (kg/m3):	Insoluble
Vapour Pressure (mm.Hg./20°C)	5-6
Density (kg/m3)	1.80

MATERIAL SAFETY DATA SHEET
CHEMTRONICS™ CW2200 CIRCUITWORKS™ CONDUCTIVE PEN

9. PHYSICAL AND CHEMICAL PROPERTIES continued	
Vapour Density (Air=1):	>1
Evaporation Rate:	>1
10. STABILITY AND REACTIVITY	
Stability:	Stable under normal conditions.
Conditions to Avoid:	Sources of ignition. Temperatures in excess of 50°C.
Materials to avoid:	Strong oxidizing agents, acids, bases, caustics.
Hazardous Decomposition Products:	Combustion will generate: oxides of carbon, oxides of nitrogen, monomers and smoke.
11. TOXICOLOGICAL INFORMATION	

Acute Toxicity	Low order of acute toxicity.
12. ECOLOGICAL INFORMATION	
Mobility:	No product specific data is available.
Persistence/Degradability:	No product specific data is available.
Bio-accumulation:	No product specific data is available.
13. DISPOSAL CONSIDERATIONS	
Container Disposal:	Plastic caps and empty containers may be recycled via appropriate routes. Do not incinerate closed containers.
14. TRANSPORTATION INFORMATION	
UN Number:	1263
UN Proper Shipping Name:	PAINT
UN Class	3
UN Packaging Group	II
ADR/RID Substance Identification Number	1263
ADR/RID - Description	Inflammable liquids having a flash-point below 21°C, not toxic and not corrosive.
ADR/RID - Class	3
ADR/RID - Item No.	3b
ADR/RID - Hazard Identification Number	33
IMDG - Proper Shipping Name	PAINT
IMDG - Packaging Group	II
IMDG - Class	3.2
IMDG - Marine Pollutant	No.
IMDG - Ems Number	3-07
IMDG - Page Number	3268
IATA - Proper Shipping Name	PAINT
IATA - Packaging Group	II
IATA - Class	3
Tremcard No. TEC(R)	527

MATERIAL SAFETY DATA SHEET
CHEMTRONICS® CW2200 CIRCUITWORKS® CONDUCTIVE PEN

15. REGULATORY INFORMATION	
Labeling Information	
f	Flammable.
R Phrases:	Flammable.
S Phrases:	Keep away from sources of ignition - No Smoking. Use only in well ventilated areas. Keep away from children. Do not breathe gas/vapour/spray. Avoid contact with eyes.
16. OTHER INFORMATION:	
PRODUCT INFORMATION: 1-770-424-4888	
Product Use:	For industrial use only.
MSDS first issued:	5/31/96
MSDS data revised:	4/3/98
EC Legislation	EC Directive 91/155/EEC defining the laying down and detailed arrangements for the system of specific information relating to dangerous preparations. EC Directive 88/379/EEC relating to the classification, packaging and labelling of dangerous preparations.

To the best of our knowledge, the information contained herein is accurate. However, all materials may present unknown hazards and should be used with caution. In particular, improper use of our products and their inappropriate combination with other products and substances may produce harmful results which cannot be anticipated. Final determination of the suitability of any material is the sole responsibility of the user. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that may exist.